What is claimed is

1. A method of prophylaxis of a disease associated with amyloid deposits of Aβ in the brain of a patient, comprising administering an effective regime of a fragment of Aβ, wherein the fragment induces antibodies that specifically bind to Aβ at one or more epitopes between residues 12 and 43 without inducing antibodies that specifically bind to one or more epitopes between residues 1-11, and the fragment is not Aβ13-28, 17-28, 25-35, 35-40, 33-42 or 35-42, whereby the induced antibodies specifically bind to soluble Aβ in the patient thereby inhibiting formation of amyloid deposits of Aβ in the brain from the soluble Aβ, and thereby effecting prophylaxis of the disease

2. The method of claim 1, wherein the fragment is free of an intact T-cell epitope that induces a T-cell response to Aβ.

3. The method of claim 1, wherein the induced antibodies lack capacity to specifically bind to amyloid deposits of Aβ.

4. The method of claim 1, wherein the fragment contains a segment of 5-10 contiguous amino acids of Aβ.

5. The method of claim 1, wherein the fragment contains a segment of 5-10 contiguous amino acids within Aβ15-24.

6. The method of claim 1, wherein the fragment is selected from the group consisting of Aβ15-21, Aβ16-22, Aβ17-23, Aβ18-24, Aβ19-25, Aβ15-22, Aβ16-23, Aβ17-24, Aβ18-25, Aβ15-23, Aβ16-24, Aβ17-25, Aβ18-26, Aβ15-24, Aβ16-25, and Aβ15-25.

7. The method of claim 1, wherein the fragment is a C-terminal fragment that induces antibodies that specifically bind to Aβ42 and/or Aβ43 without specifically binding to Aβ39, 40 or 41.

8. A method of prophylaxis of a disease associated with amyloid deposits of Aβ in the brain of a patient, comprising administering an effective regime of a fragment of Aβ, wherein the fragment is selected from the group consisting of Aβ15-21, Aβ16-22, Aβ17-23, Aβ18-24, Aβ19-25, Aβ15-22, Aβ16-23, Aβ17-24, Aβ18-25, Aβ15-23, Aβ16-24, Aβ17-

25, Aβ18-26, Aβ15-24, Aβ16-25, and Aβ15-25, and thereby effect prophylaxis of the disease.

9. The method of claim 1, method further comprising administering a fragment of Aβ that induces antibodies specifically binding to Aβ at one or more epitopes with Aβ1-11.

10. The method of claim 9, wherein the fragment of Aβ that induces antibodies specifically binding to Aβ at an epitope with Aβ1-11 is administered before the fragment induces antibodies that specifically bind to Aβ at one or more epitopes between residues 12 and 43.

11. The method of claim 1, further comprising administering an antibody that specifically binds to Aβ at an epitope with Aβ1-11.

12. The method of claim 1, wherein the antibody that specifically binds to Aβ at an epitope with Aβ1-11 is administered before the fragment that induces antibodies that specifically bind to Aβ at one or more epitopes between residues 12 and 43.

13. The method of claim any of the preceding claims, wherein the disease is characterized by cognitive impairment.

14. The method of claim any of the preceding claims, wherein the disease is Alzheimer's disease.

15. The method of claim any of the preceding claims, wherein the disease is Down's syndrome.

16. The method of claim any of the preceding claims, wherein the disease is mild cognitive impairment.

17. The method of any of the preceding claims, wherein the patient is human.

18. The method of any of the preceding claims, further comprising monitoring the induced antibodies in the patient.

19. The method of any of the preceding claims, wherein the patient is asymptomatic.

20. The method of any of the preceding claims, wherein the patient is symptomatic and the administering inhibits deterioration of the patient's symptoms.

21. The method of any of the preceding claims, wherein the patient is under 50.

22. The method of any of the preceding claims, wherein the patient has an inherited risk factor indicating susceptibility to Alzheimer's disease.

23. The method of claim 19, wherein the patient does not develop detectable symptoms for five years after the administering step is first performed.

24. The method of any of claims 1-21 and 23, wherein the patient has no known risk factors for Alzheimer's disease.

25. The method of any of the preceding claims, wherein the regime comprises administering a dosage of at least 50 micrograms of the fragment on a plurality of days.

26. The method of any of the preceding claims, wherein the fragment is administered with an adjuvant that increases the level of antibodies induced by the fragment.

27. The method of any of the preceding claims, wherein the fragment is administered intraperitoneally, orally, intranasally, subcutaneously, intramuscularly, topically or intravenously.

28. The method of any of the preceding claims, wherein the fragment is administered by administering a polynucleotide encoding the fragment, wherein the polynucleotide is expressed to produce the fragment in the patient.

29. The method of any of the preceding claims, further comprising monitoring the patient for level of induced antibodies in the blood of the patient.

30. The method of any of the preceding claims, wherein the fragment is administered in multiple dosages over a period of at least three months.

31. The method of claim 30, wherein the dosages are at least 50 micrograms.

32. The method of claim 1, wherein the fragment is linked to a carrier molecule to form a conjugate.

33. The method of any of claim 32, wherein the carrier is a heterologous polypeptide.

34. The method of claim 32, wherein multiple copies of the fragment are linked to a carrier molecule to form a conjugate.

35. The method of claim 32, wherein multiple copies of the fragment are linked to multiple copies of the carrier molecule, which are linked to each other.

36. The method of claim 33, wherein the heterologous polypeptide comprises QYIKANSKFIGITEL (SEQ ID NO:8).

37. The method of claim 33, wherein the heterologous polypeptide comprises the amino acid sequence AKXVAAWTLKAAA (SEQ ID NO11).

38. The method of claim 33, wherein the polypeptide induces a T-cell response against the heterologous polypeptide and thereby a B-cell response against the fragment.

39. The method of claim 1, further comprising administering an adjuvant that enhances the titer and/or binding affinity of the induced antibodies relative to administering the fragment alone.

40. The method of claim 39, wherein the adjuvant and the polypeptide are administered together as a composition.

41. The method of claim 39, wherein the adjuvant is administered before the polypeptide.

42. The method of claim 39, wherein the adjuvant is administered after the polypeptide.

43. The method of claim 39, wherein the adjuvant is alum.

44. The method of claim 39, wherein the adjuvant is MPL.

45. The method of claim 39, wherein the adjuvant is QS-21.

46. The method of claim 39, wherein the adjuvant is incomplete Freund's adjuvant.

47. The method of any of the preceding claims, wherein the dosage of the fragment is greater than 10 micrograms.

48. A method of treating a disease associated with amyloid deposits of Aβ in the brain of a patient, comprising administering an effective regime of a fragment of Aβ, wherein the fragment induces antibodies that specifically bind to Aβ at one or more epitopes between residues 12 and 43 without inducing antibodies that specifically bind to one or more epitopes between residues 1-11, and the fragment , 33-42 Aβ13-28, 17-28, 25-35, 35-40 or 35-42, whereby the induced antibodies specifically bind to soluble Aβ in the patient thereby inhibiting formation of amyloid deposits of Aβ in the brain from the soluble Aβ, and thereby treat the disease.

49. The method of claim 48, wherein the fragment is free of an intact T-cell epitope that induces a T-cell response to Aβ.

50. The method of claim 48, wherein the induced antibodies lack capacity to specifically bind to amyloid deposits of Aβ.

51. The method of claim 48, wherein the fragment contains a segment of 5-10 contiguous amino acids of Aβ.

52. The method of claim 48, wherein the fragment contains a segment of 5-10 contiguous amino acids within Aβ15-24.

53. The method of claim 48, wherein the fragment is selected from the group consisting of Aβ15-21, Aβ16-22, Aβ17-23, Aβ18-24, Aβ19-25, Aβ15-22, Aβ16-23, Aβ17-24, Aβ18-25, Aβ15-23, Aβ16-24, Aβ17-25, Aβ18-26, Aβ15-24, Aβ16-25, and Aβ15-25.

54. The method of claim 48, wherein the fragment is a C-terminal fragment that induces antibodies that specifically bind to Aβ42 and/or Aβ43 without specifically binding to Aβ39, 40 or 41.

55. A method of treating a disease associated with amyloid deposits of Aβ in the brain of a patient, comprising administering an effective regime of a fragment of Aβ, wherein the fragment is selected from the group consisting of Aβ15-21, Aβ16-22, Aβ17-23, Aβ18-24, Aβ19-25, Aβ15-22, Aβ16-23, Aβ17-24, Aβ18-25, Aβ15-23, Aβ16-24, Aβ17-25, Aβ18-26, Aβ15-24, Aβ16-25, and Aβ15-25, and thereby treat the disease.

56. The method of claim 55, method further comprising administering a fragment of Aβ that induces antibodies specifically binding to Aβ at one or more epitopes with Aβ1-11.

57. The method of claim 56, wherein the fragment of Aβ that induces antibodies specifically binding to Aβ at an epitope with Aβ1-11 is administered before the fragment induces antibodies that specifically bind to Aβ at one or more epitopes between residues 12 and 43.

58. The method of claim 48, further comprising administering an antibody that specifically binds to Aβ at an epitope with Aβ1-11.

59. The method of claim 48, wherein the antibody that specifically binds to Aβ at an epitope with Aβ1-11 is administered before the fragment that induces antibodies that specifically bind to Aβ at one or more epitopes between residues 12 and 43.

60. The method of claim any of the preceding claims, wherein the disease is characterized by cognitive impairment.

61. The method of claim any of the preceding claims, wherein the disease is Alzheimer's disease.

62. The method of claim any of the preceding claims, wherein the disease is Down's syndrome.

63. The method of claim any of the preceding claims, wherein the disease is mild cognitive impairment.

64. The method of any of the preceding claims, wherein the patient is human.

65. The method of any of the preceding claims, further comprising monitoring the induced antibodies in the patient.

66. The method of any of the preceding claims, wherein the patient is asymptomatic.

67. The method of any of the preceding claims, wherein the patient is symptomatic and the administering inhibits deterioration of the patient's symptoms.

68. The method of any of the preceding claims, wherein the patient is under 50.

69. The method of any of the preceding claims, wherein the patient has an inherited risk factor indicating susceptibility to Alzheimer's disease.

70. The method of claim 66, wherein the patient does not develop detectable symptoms for five years after the administering step is first performed.

71. The method of any of claims 1-68 and 70, wherein the patient has no known risk factors for Alzheimer's disease.

72. The method of any of the preceding claims, wherein the regime comprises administering a dosage of at least 50 micrograms of the fragment on a plurality of days.

73. The method of any of the preceding claims, wherein the fragment is administered with an adjuvant that increases the level of antibodies induced by the fragment.

74. The method of any of the preceding claims, wherein the fragment is administered intraperitoneally, orally, intranasally, subcutaneously, intramuscularly, topically or intravenously.

75. The method of any of the preceding claims, wherein the fragment is administered by administering a polynucleotide encoding the fragment, wherein the polynucleotide is expressed to produce the fragment in the patient.

76. The method of any of the preceding claims, further comprising monitoring the patient for level of induced antibodies in the blood of the patient.

77. The method of any of the preceding claims, wherein the fragment is administered in multiple dosages over a period of at least three months.

78. The method of claim 77, wherein the dosages are at least 50 micrograms.

79. The method of claim 55, wherein the fragment is linked to a carrier to form a conjugate.

80. The method of any of claim 79, wherein the carrier is a heterologous polypeptide.

81. The method of claim 79, wherein multiple copies of the fragment are linked to a carrier to form a conjugate.

82. The method of 79, wherein multiple copies of the fragment are linked to multiple copies of the carrier, which are linked to each other.

83. The method of claim 80, wherein the heterologous polypeptide comprises QYIKANSKFIGITEL (SEQ ID NO:8).

84. The method of claim 80, wherein the heterologous polypeptide comprises the amino acid sequence AKXVAAWTLKAAA (SEQ ID NO:11).

85. The method of claim 80, wherein the polypeptide induces a T-cell response against the heterologous polypeptide and thereby a B-cell response against the fragment.

86. The method of claim 55, further comprising administering an aduvant that enhances the titer and/or binding affinity of the induced antibodies relative to administering the fragment alone.

87. The method of claim 86, wherein the adjuvant and the polypeptide are administered together as a composition.

88. The method of claim 86, wherein the adjuvant is administered before the polypeptide.

89. The method of claim 86, wherein the adjuvant is administered after the polypeptide.

90. The method of claim 86, wherein the adjuvant is alum.

91. The method of claim 86, wherein the adjuvant is MPL.

92. The method of claim 86, wherein the adjuvant is QS-21.

93. The method of claim 86, wherein the adjuvant is incomplete Freund's adjuvant.

94. The method of any of the preceding claims, wherein the dosage of the fragment is greater than 10 micrograms.

95. A pharmaceutical composition comprising a fragment of Aβ as defined in any of claims 48-55 and an adjuvant.

96. The use of a fragment of Aβ effective to treat or effect prophylaxis of a disease associated with amyloid deposits of Aβ in the brain of a patient in the manufacture of a medicament, wherein the Aβ fragment induces antibodies that specifically bind to Aβ at one or more epitopes between residues 12 and 43 without inducing antibodies that specifically bind to one or more epitopes between residues 1-11, and the fragment is not Aβ13-28, 17-28, 25-35, 35-40 or 35-42, whereby the induced antibodies specifically bind to soluble Aβ in the patient thereby inhibiting formation of amyloid deposits of Aβ in the brain from the soluble Aβ, and thereby effecting prophylaxis of the disease.

97. The use of claim 96, wherein the fragment is free of an intact T-cell epitope that induces a T-cell response to Aβ.

98. The use of claim 96, wherein the induced antibodies lack capacity to specifically bind to amyloid deposits of Aβ.

99. The use of claim 96, wherein the fragment contains a segment of 5-10 contiguous amino acids of Aβ.

100. The use of claim 96, wherein the fragment contains a segment of 5-10 contiguous amino acids within Aβ15-24.

101. The use of claim 96, wherein the fragment is selected from the group consisting of Aβ15-21, Aβ16-22, Aβ17-23, Aβ18-24, Aβ19-25, Aβ15-22, Aβ16-23, Aβ17-24, Aβ18-25, Aβ15-23, Aβ16-24, Aβ17-25, Aβ18-26, Aβ15-24, Aβ16-25, and Aβ15-25.

102. The use of claim 96, wherein the fragment is a C-terminal fragment that induces antibodies that specifically bind to Aβ42 and/or Aβ43 without specifically binding to Aβ39, 40 or 41.